



Australian Government

ICTGAM503 Create a complex 3-D interactive computer game

Release: 1

ICTGAM503 Create a complex 3-D interactive computer game

Modification History

Release	Comments
Release 1	This version first released with ICT Information and Communications Technology Training Package Version 1.0.

Application

This unit describes the skills and knowledge required to use original and innovative ideas, and industry-standard production techniques, to create functional games according to a specific design brief.

It applies to individuals who support the design, development and programming of interactive 3-D media, and digital games, as part of a larger development team.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Game development

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Identify the required game assets in a team environment	1.1 Obtain the project brief and other relevant documents 1.2 Identify the game production assets required to meet the creative and production requirements, and technical specifications 1.3 Discuss the formats of assets, and issues of asset integration, with the appropriate personnel 1.4 Determine the sequence for the development of a beta-version prototype for testing game play 1.5 Create a schedule for production and testing 1.6 Determine strategies for monitoring production progress against the schedule

ELEMENT	PERFORMANCE CRITERIA
2. Identify the capability of game-engine software and tools and make a selection in a team environment	2.1 Identify and review the range of industry-standard game-engine software and development tools available 2.2 Assess the software and tools related to the specified game concept and play requirements 2.3 Discuss considerations for the selection of game-engine software with the relevant personnel, to ensure that the selection will meet the specified outcomes 2.4 Select the game-engine software and development tools
3. Create or acquire the required assets for a game in a team environment	3.1 Establish an environment for a project that supports sharing of project assets produced by team members 3.2 Review the attributes of the assets required in a game project related to the chosen game engine 3.3 Create or acquire the visual assets for a games project 3.4 Customise asset attributes to suit the game design, and chosen game engine
4. Use game-engine software and development tools in a team environment	4.1 Collaborate in the use of tools, and features, of software relevant to the game-production process 4.2 Create, modify or access scripts or code to combine assets, and achieve agreed project goals 4.3 Create and check game-play elements, according to the creative and technical requirements 4.4 Test and run the game prototype as a presentation, to ensure that sequences meet the creative, production and technical requirements
5. Evaluate the game prototype in a team environment	5.1 Demonstrate the initial prototype to the relevant personnel 5.2 Evaluate against criteria, including the achievement of a creative and user-friendly product 5.3 Discuss and agree on required changes 5.4 Assist, if required, in tests and user trials 5.5 Evaluate the feedback from user trials 5.6 Confirm the endorsement from relevant personnel to develop the prototype into a complete product
6. Transform the prototype into final publication	6.1 Make the necessary changes, as indicated by user trials 6.2 Integrate all game elements, as required by the specifications 6.3 Make final checks to ensure that all sequences conform to the

ELEMENT	PERFORMANCE CRITERIA
	navigation design
	6.4 Assemble a final publication for distribution

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Performance Criteria	Description
Reading	1.2, 2.1, 4.2, 4.3, 6.2, 6.3	Interprets and comprehends a large range of textual and diagrammatic information, to inform instructional, technical and conceptual requirements
Writing	4.2, 5.5, 5.6, 6.4	Uses correct spelling and grammatical structures, clear language, and technical terminology when explaining technical and design requirements
Oral Communication	1.3, 2.3, 5.5, 5.6	- Elicits information using effective listening and open questioning techniques - Speaks clearly and concisely, converting highly technical language and terminology into plain English, when providing feedback and other information
Numeracy	1.5, 4.1, 4.2, 4.3, 4.4	- Uses whole numbers, decimals and percentages when manipulating software, to achieve the required technical and design components - Defines timeframes in accordance with the schedule requirements
Interact with others	3.1, 4.1, 5.1, 5.3, 5.4, 5.6	Cooperates and collaborates with others as part of routine activities to achieve team results, and to confirm that the outcomes meet the requirements
Get the work done	1.1-1.6, 2.1-2.4, 3.1-3.4, 4.1-4.4, 5.1-5.6, 6.1-6.4	- Actively sources, analyses and evaluates applications, tools, and assets for the potential to meet creative requirements - Understands the purposes, and uses key features, of specific digital systems and tools, and operates them effectively in order to complete design tasks - Uses creativity and initiative in game design - Plans, organises, and completes work according to defined requirements and schedules, taking responsibility for decisions, and sequencing tasks to achieve efficient outcomes

		• Uses a systematic process to evaluate work and to implement improvements
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Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ICTGAM503 Create a complex 3-D interactive computer game	ICAGAM503A Create a complex 3-D interactive computer game	Updated to meet Standards for Training Packages	Equivalent unit

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e9d6aff2>

Assessment Requirements for ICTGAM503 Create a complex 3-D interactive computer game

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Performance Evidence

Evidence of the ability to:

- determine required game assets
- apply a variety of strategies for game trialling and testing
- apply original and innovative approaches to the creative development of a 3-D game
- implement game development and production strategies
- maintain the integrity of the design brief and game design document
- communicate, collaborate and participate in a team environment
- transform the prototype into final publication.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- explain basic programming techniques
- summarise the capabilities and constraints of game engines
- discuss the process used for computer games development, including specific terminology
- provide a detailed summary of current game-play hardware and software products
- explain risk and critical path management
- outline technical constraints that hardware imposes on:
 - graphics requirements
 - code development
 - creative visual design.

Assessment Conditions

Gather evidence to demonstrate consistent performance in conditions that are safe and replicate the workplace. Noise levels, production flow, interruptions and time variances must be typical of those experienced in the game development field of work, and include access to:

- computer hardware and software
- games engines
- file storage
- the internet for research purposes.

Assessors must satisfy NVR/AQTF assessor requirements.

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